

Mako G

G-234



- Sony CMOS sensor
- Ultra-compact design
- 10-bit or 12 bit sensor readout
- Power over Ethernet

Description

2.35 Megapixel machine vision camera with Sony IMX CMOS sensor

Mako G-234 is a 2.35 megapixel GigE machine vision camera that incorporates the high quality Type 1/1.2 (13.4 mm diagonal) Sony IMX249 CMOS sensor. At full resolution, this camera runs 41.2 frames per second (10-bit sensor readout). With a smaller region of interest, higher frame rates are possible. The Mako G-234 is an ideal replacement for legacy CCD models.

Mako G cameras have the same ultra-compact form factor and the same mounting positions as many analog cameras. All models include Power over Ethernet (PoE), three opto-isolated outputs, and a 64 MByte image buffer. The image quality profits from the precisely aligned sensor. By default monochrome models ship with no optical filter and color models ship with IRC Hoya C-5000 IR cut filter.

Benefits and features:

- Monochrome (G-234B) and color (G-234C) models
- GigE Vision interface with Power over Ethernet
- Screw mount RJ45 Ethernet connector for secure operation in industrial environments
- Supports cable lengths up to 100 meters (CAT-5e or CAT-6)
- Comprehensive I/O functionality for simplified system integration
- Easy camera mounting via standard M3 threads on top and bottom of housing or optional tripod adapter
- Support for popular third party image-processing libraries including Cognex VisionPro, MathWorks MATLAB, National Instruments LabVIEW, Stemmer Imaging Common Vision Blox, MVTec HALCON and MERLIC

Options:

- Available with CS-Mount or CS-Mount with M12-Mount adapter

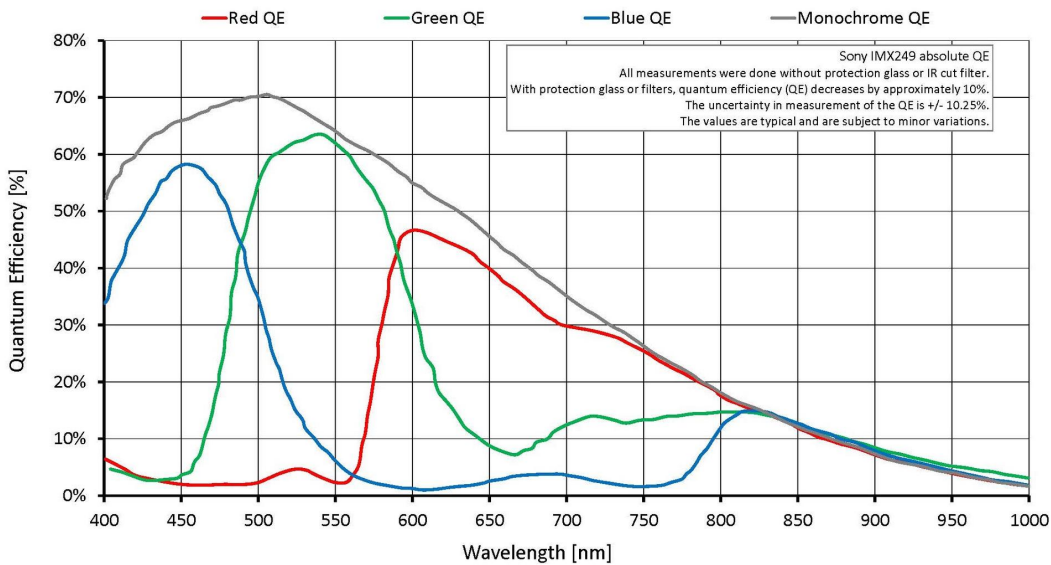
- Available with Protection glass B 270 (ASG), IRC type Jenofilt 217 (IR cut filter), IRC Hoya C-5000 (IR cut filter), IRP RG715 (IR pass filter), IRP RG830 (IR pass filter)

See the [Modular Concept](#) for lens mount, optical filter, and housing design options.

See the [Customization and OEM Solutions](#) page for additional options.

Specifications

Mako G	G-234
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	1936 (H) × 1216 (V)
Sensor	Sony IMX249
Sensor type	CMOS
Sensor size	Type 1/1.2
Pixel size	5.86 μm × 5.86 μm
Lens mount (default)	C-Mount
Max. frame rate at full resolution	41.2 fps
ADC	12 bit
Image buffer (RAM)	64 MByte
Output	
Bit depth	10/12 bit
Monochrome pixel formats	Mono8, Mono12, Mono12Packed
YUV color pixel formats	YUV411Packed, YUV422Packed, YUV444Packed
RGB color pixel formats	RGB8Packed, BGR8Packed
Raw pixel formats	BayerRG8, BayerRG12, BayerRG12Packed
General purpose inputs/outputs (GPIOs)	
Opto-isolated I/Os	1 input, 3 outputs
Operating conditions/dimensions	
Operating temperature	+5 °C to +45 °C housing temperature
Power requirements (DC)	12 to 24 VDC; PoE
Power consumption	2.4 W at 12 VDC; 2.8 W PoE
Mass	80 g
Body dimensions (L × W × H in mm)	60.5 × 29.2 × 29.2 (including connectors)
Regulations	CE: 2014/30/EU (EMC), 2011/65/EU (RoHS); FCC Class B; CAN ICES-003



Features

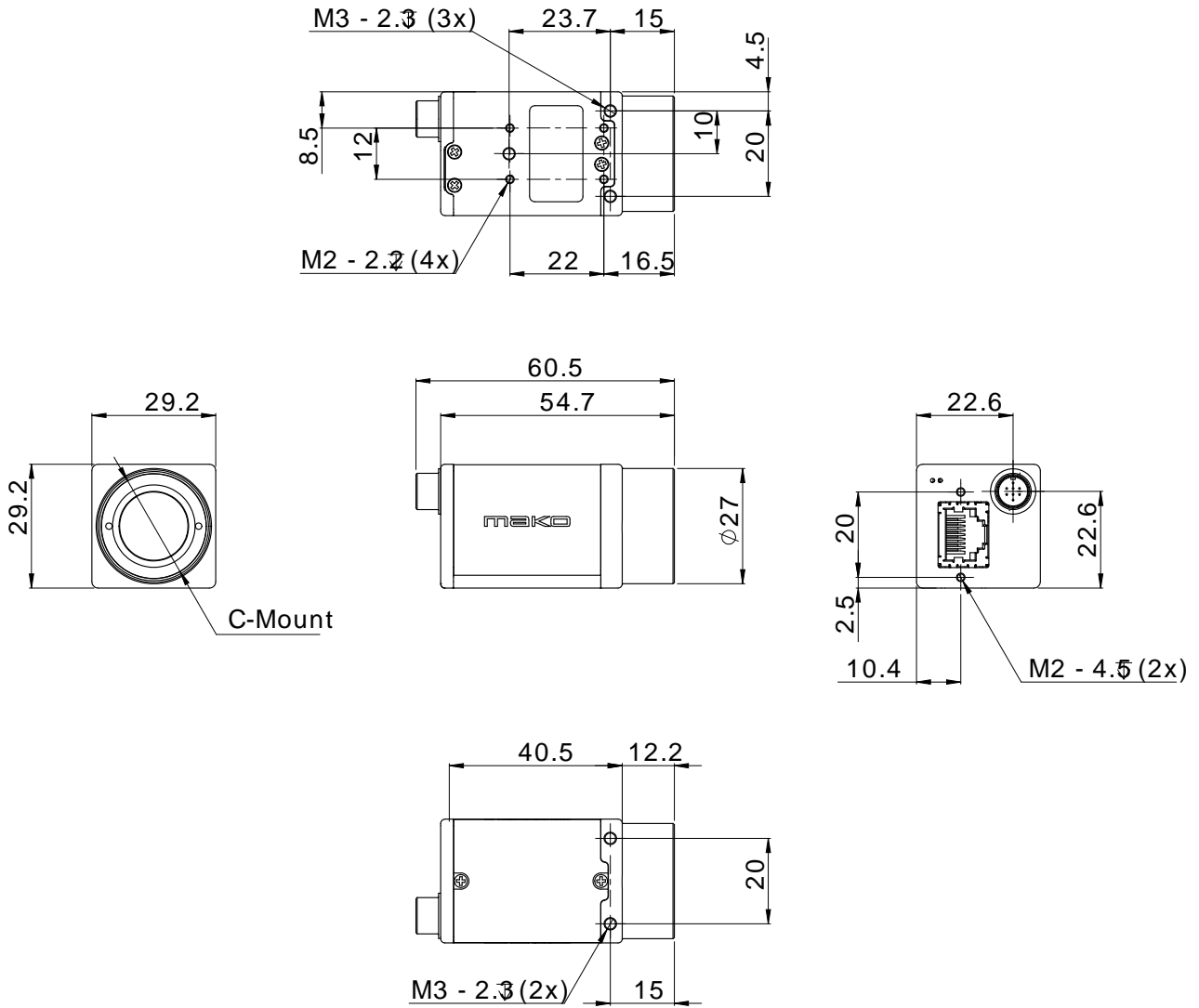
Image optimization features:

- Auto gain (manual gain control: 0 to 40 dB; 0.1 dB increments)
- Auto exposure (exposure time control varies by pixel format)
- Auto white balance (G-234C only)
- Binning
- Color correction, hue, saturation (G-234C only)
- Decimation
- Gamma correction
- One look-up table (LUT)
- Region of interest (ROI), separate ROI for auto features
- Reverse X/Y

Camera control features:

- 10-bit or 12-bit sensor readout mode
- Event channel
- Image chunk data
- Storable user sets
- StreamBytesPerSecond (bandwidth control)
- Stream hold
- Sync out modes: Trigger ready, input, exposing, readout, imaging, strobe, GPO
- Temperature monitoring (main board only)

Technical drawing





Applications

Mako G-234 is ideal for a wide range of applications including:

- Robotics
- Quality control
- Inspection, surveillance
- Industrial imaging
- Machine vision
- Logistics